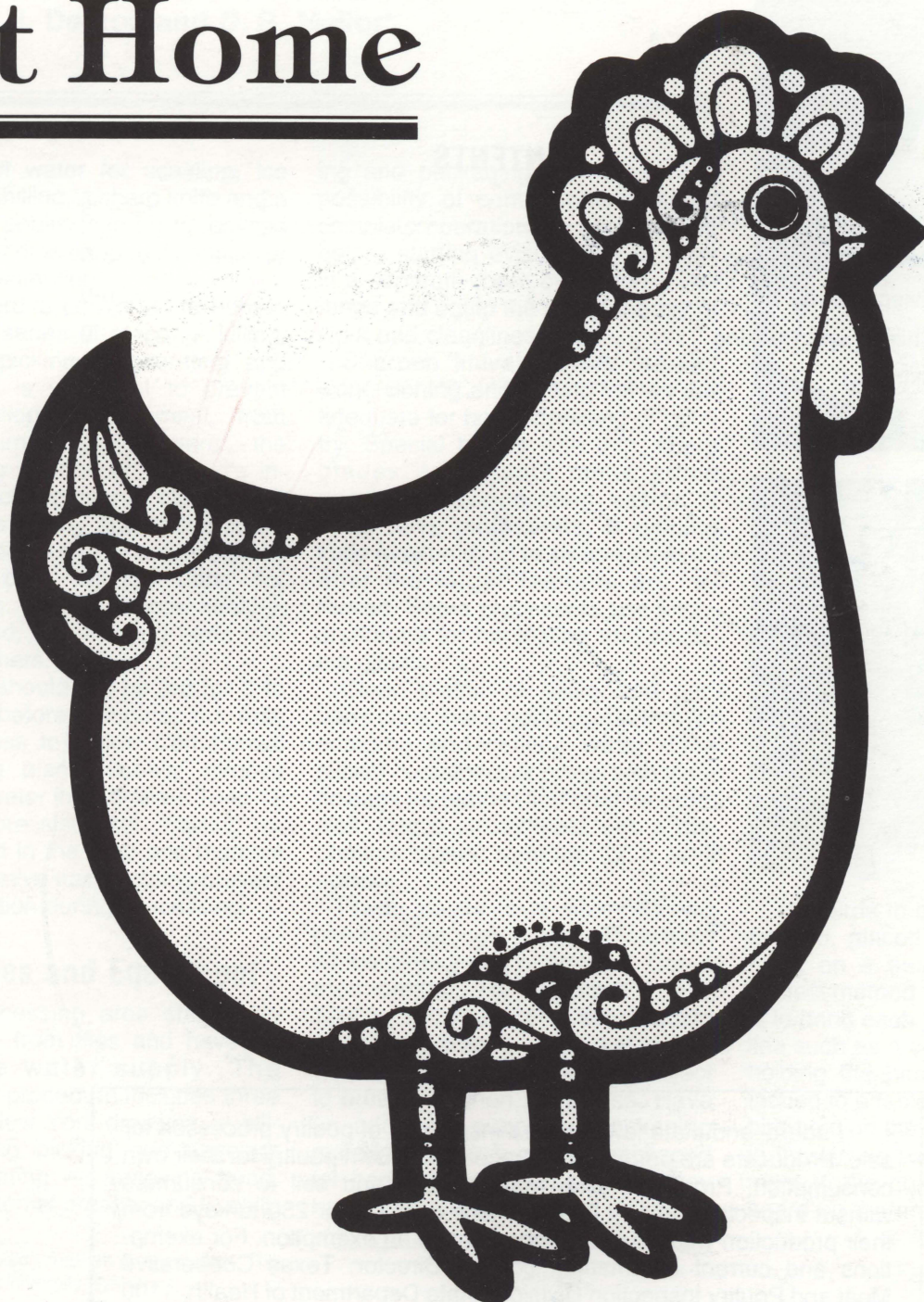


Processing Poultry at Home



The Texas A&M
University System



**Texas
Agricultural
Extension
Service**

Zerle L. Carpenter, Director
College Station

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Federal and state laws require inspection of poultry processed for sale. Producers are permitted to process their own poultry for their own consumption. Producers also may process and sell to consumers without inspection up to 1,000 chickens or ducks or 250 turkeys from their production within Texas, if they obtain an exemption. For exemptions and current information, contact Director, Texas Cooperative Meat and Poultry Inspection Division, State Department of Health, 1100 W. 49th Street, Austin, TX 78756 (512-458-7221).

Processing Poultry at Home

by J. H. Denton and D. B. Mellor*

With hot water for scalding, ice water for chilling, a sharp knife and a little time, poultry can be processed at home for dressed poultry shows or home consumption.

A live bird is converted to human food in a series of steps — killing, scalding, picking, eviscerating and chilling. It is important to prevent contamination of the meat, from either surroundings where the processing is done or the bird's intestinal or crop contents. Contamination lowers quality and shortens the time the poultry can be safely stored.

Select only healthy birds for processing. Always choose healthy, well-fleshed, well-finished birds free of pin feathers.

Poultry should not be fed for 8 to 10 hours before slaughter but may have access to water. Commercial processing plants usually remove feed and water from broilers 10 to 12 hours before slaughter. Fasting reduces feed in the crop and material in the digestive tract, helping prevent contamination during processing.

Facilities and Equipment

The processing area should be clean, free from flies and have an adequate water supply. The processing procedure includes three steps: 1) New York dressing — killing, scalding, picking, and singeing; 2) eviscerating — removing head, feet and internal organs; and 3) chill-

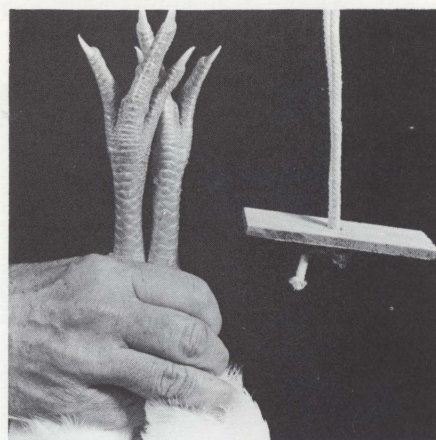
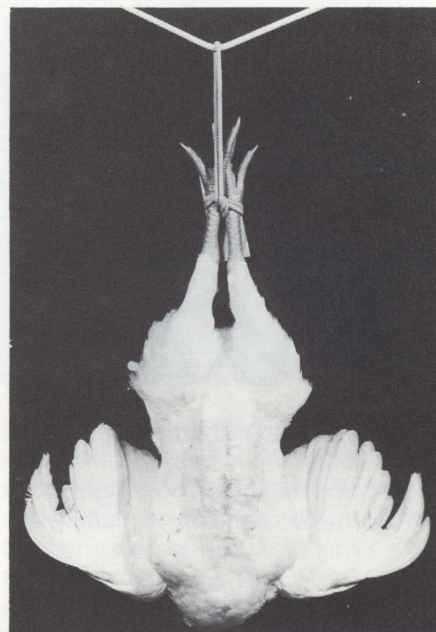
ing and packaging. To reduce the possibility of contamination, either complete operations in the first step before starting evisceration or work in a separate room or outdoors. Arrange and equip the area for ease of work and cleanliness.

Sharpen knives before starting work. Boning and cutting knives are adequate for home dressing of poultry. Special knives with thin, sharp blades and points make some phases of eviscerating easier. If birds have pinfeathers, a pinning knife may be used to scrape them off after the larger feathers are removed. Some processors use kitchen shears for harvesting and cleaning giblets.

Clean plastic or galvanized garbage cans make good containers for scalding and chilling water. Line similar containers or boxes with plastic bags for feather and offal receptacles. Use a sturdy table with a disposable plastic covering for a work surface.

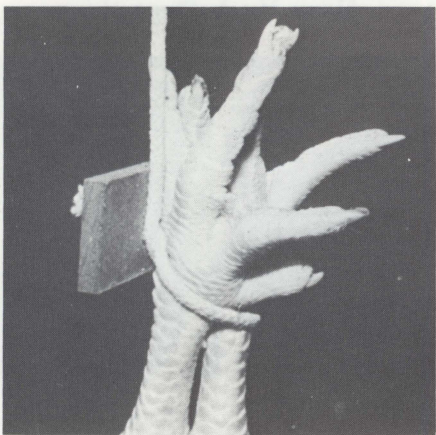
Place giblets in a clean kitchen pan large enough to hold giblets from all the birds being processed. Use a thermometer that registers in the 120° to 160°F range to adjust scald water temperature. A pocket model with a protective case is less subject to breakage when not in use. Have an adequate supply of packaging materials so birds can be packaged for handling and storage after they have been processed and chilled.

New York Dressing

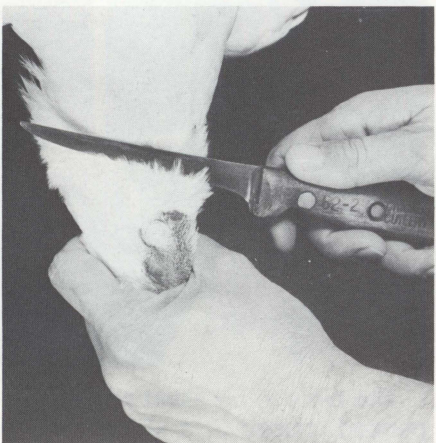


The birds to be killed can be suspended, placed in a killing cone or hung on a shackle. Probably the easiest method for killing a few birds is to hang each bird by a cord from a line such as a clothes line. The cord holding the bird could even be attached to a table or chair leg and the bird held on the ground. If supported in the air, an easy means of attachment to the holding cord is a small board on the end of a line.

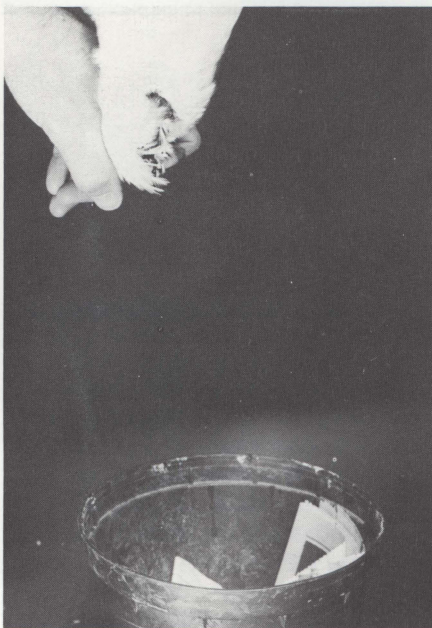
*Extension poultry marketing specialists, The Texas A&M University System.



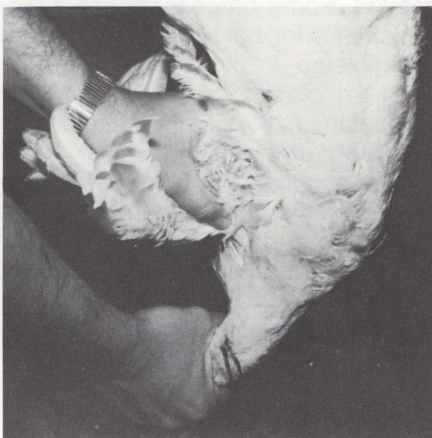
This is wrapped around the bird's legs so the line is between the small board and the legs. The weight of the bird provides tension to tighten the line. The bird can be disengaged easily after killing. Always allow a little time after the bird is hung before it is killed. This allows the bird to settle down and makes killing it easier.



Killing the bird requires cutting at least one vein in its neck. Hold the head in one hand and pull down slightly. There are two veins in the neck coming to the head and both pass near an ear lobe. Cut the neck close to the ear lobe on one side only. Avoid cutting the windpipe and esophagus. Cut only the neck vein. This reduces the possibility of carcass contamination by blood being drawn into the air sacs.

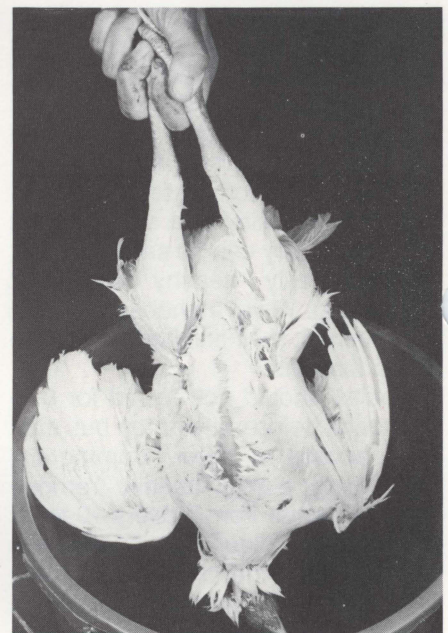


After cutting the neck, hold the head and allow the blood to drip into a container. The blood should flow freely. The bird will not move at first but after a few moments will flop during its death struggle.

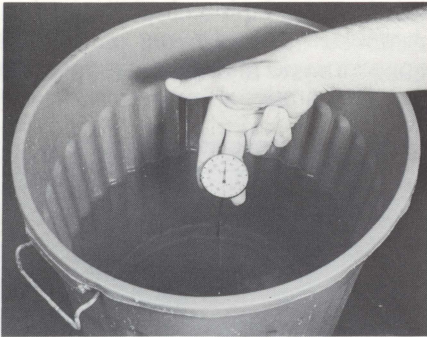


Hold the bird gently enough to avoid dislocating the wing joints but firmly enough to prevent blood splatter. Hold the head securely and loosely hold the wings. If the blood is caught in a container cleanup is easier. With a little practice you will be able to use a small coffee can for catching blood. An important principle in this killing operation is to re-

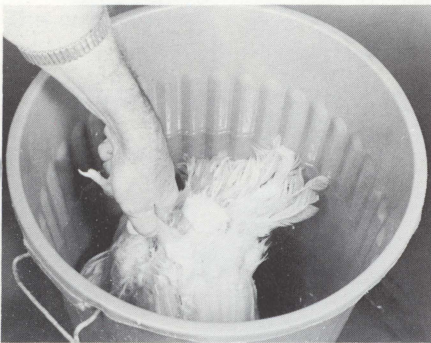
move as much blood from the bird as possible. It has been estimated that only about 50 percent of the blood is actually removed from a bird. Bleed the bird as completely as possible. Allow ample time to complete the bleeding and for the flopping to cease. Other killing methods, such as wringing the neck or chopping off the head will not produce as good a blood flow, resulting in improper or incomplete bleeding. Remaining blood does no harm if the carcass is to be cooked immediately. However, blood spoils more quickly than other parts so it is beneficial to remove as much blood as possible to lengthen shelf life for fresh or frozen poultry.



The scalding operation determines the appearance of the final dressed carcass. Water that is hot will cause the outer cuticle layer of the skin to slough off as the carcass is picked. The cuticle layer is the yellow pigment area; for show birds the loss of this yellow pigment will often result in a carcass being placed in a lower category. High scald temperatures increase the ease of picking but will often make the skin tear easier while the carcass is being picked. The recommended temperature for young birds is 128°F.



Success of the scalding operation depends on time in the scald tank and water temperature. The younger the bird, the easier the feathers are to remove. With young birds the greatest damage can be done with hot water or excessive time in the scald tank. For best results use a thermometer to determine water temperature.

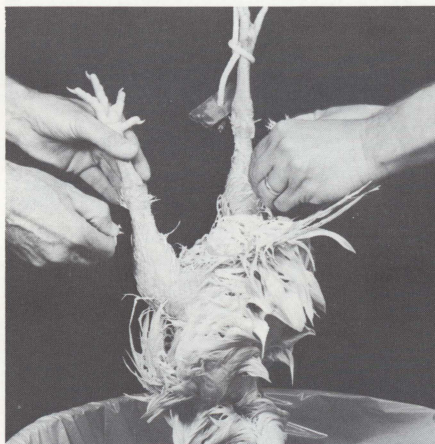


To get adequate water into the feathers, move the bird up and down in the water tank so all the feathers are well soaked. Usually, for young birds, the water temperature should be approximately 128° F with a time range from 30 to 60 seconds if the bird is well agitated.

To agitate, hold the bird by the feet and move it in a back-and-forth and an up-and-down motion in the scald tank. Proper scalding relaxes the muscles holding the feathers, but it is difficult for the warm water to penetrate the natural oily defenses of the bird. Repeated dips into the scald tank during picking may be necessary to remove difficult feathers.

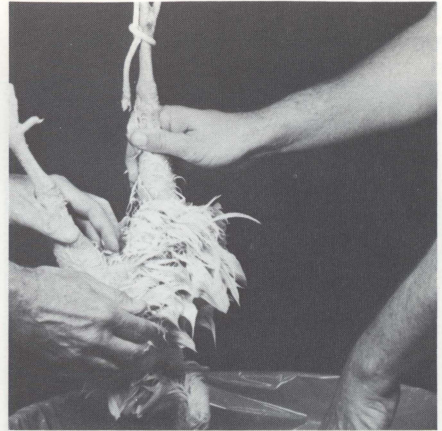


To pick, rehang the carcass on the rope which was used for killing. This time hang by only one foot. This will allow all areas of the carcass to be picked easily. Do not delay the picking operation after the carcass has been scalded.



If properly scalded, the tail and wing feathers can easily be removed. When these come off easily, the rest of the feathers should be easy to remove.

Work in sequence, removing the rest of the feathers from the body and legs. Use a pinning knife or similar

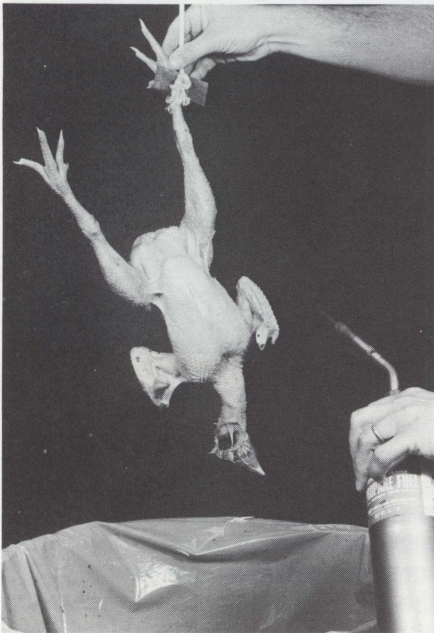


instrument to hold difficult feathers during removal. Hand picking of carcasses is not hard but takes time and patience. Work quickly with repeated dips as necessary. Do not allow the carcass to dry. Use a rolling motion in removing feathers or pull in the direction they grow to minimize skin tears. Poultry intended for show should have no skin tears. After the carcass has been fully picked, inspect it to insure all feathers have been removed.



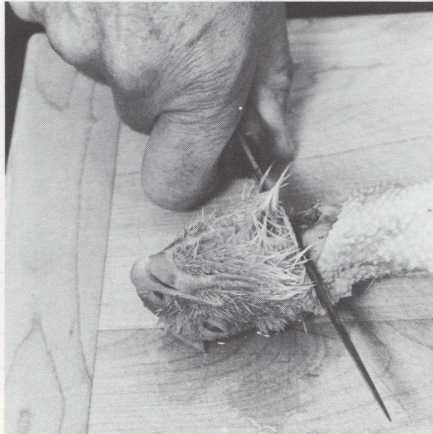
After picking, there will still be some very fine hairs left on the carcass. These hairs (not feathers) can

be removed by singeing with rolled up newspaper or a propane torch.



In singeing do not use too much heat in one area or the skin will burn. Burn off any hairs that are on the carcass. Rinse-wash the carcass to remove any particles that may have adhered after singeing or picking. This will also allow you to check the carcass to be sure all feathers and hairs have been removed. It will also moisten the carcass again.

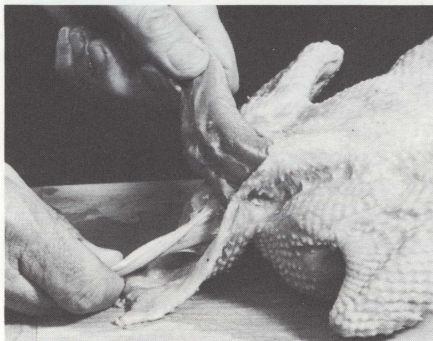
Evisceration



The first step in evisceration is removal of the head from the neck. Cut as close to the head as possible.

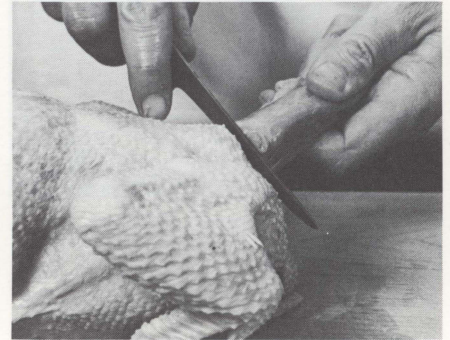


After the head has been removed, insert the knife in the back of the neck between the neck and the skin and pull upward so it cuts the neck skin from the head end of the neck to the shoulders of the carcass.

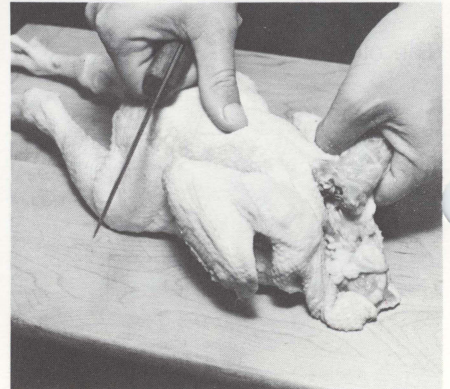


This exposes the esophagus and the wind pipe. They can be removed at this time. If proper feed restriction

has been used, the crop can also be removed from the front of the carcass. These are all pulled without use of a knife.



To cut the neck from the carcass, first cut into the meat around the neck at the joint near the shoulder of the carcass.

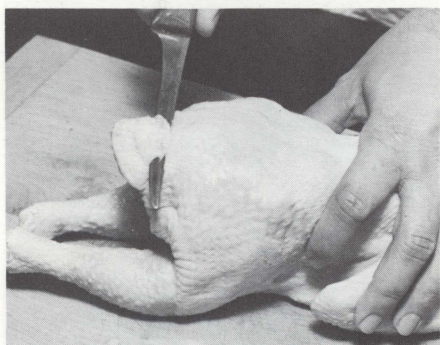


After the meat has been cut, twist the neck from the carcass. This eliminates cutting the neck bone. Wash off the neck and place it in the chilling container.

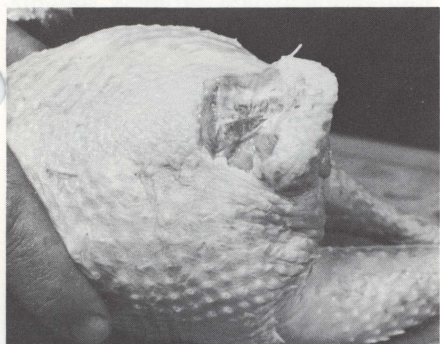


Shanks or feet of the carcass may be removed by cuts from either the back or the front of the ankle. By

laying the carcass on the board and forcing the leg with your left hand, the joint can be easily seen. The cut is made through this joint. Be sure to cut through the joint and not through the bones.



To remove the oil gland, place the carcass, breast side down, on the table and cut toward the rear of the carcass from in front of the oil gland. The oil gland can easily be seen at the base of the tail.



Remove the entire gland. Be sure no parts remain.

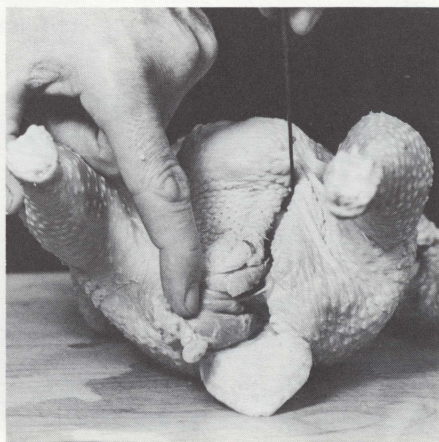


Two types of cuts can be used for opening the body cavity. One is the

J cut, usually used on broilers and small fowl. The other is the bar cut, commonly used on turkeys, capons and larger birds which will be trussed. The bar cut can also be used on broilers although it is usually more time consuming than the J cut. The bar cut leaves a bar of skin across the abdomen in which to truss the legs when finished.

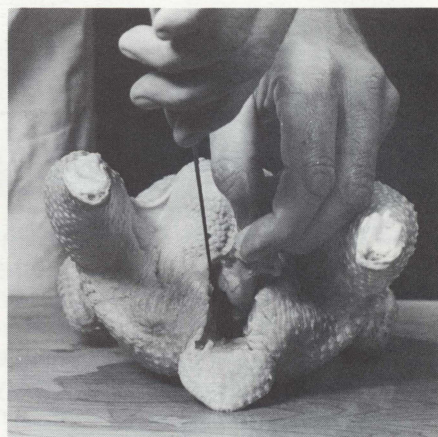


For the J cut, begin by holding the carcass by the keel as it is on its back, stretching the skin tightly and making a small horizontal cut between the tail and the vent. Cut the skin only. Do not cut the vent or intestine.

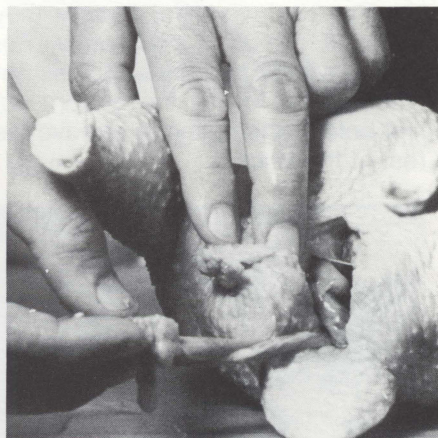


For the second part of the J cut, cut vertically to the right of the vent and keel bone. Carefully cut through the skin and body wall, avoiding the intestine. Usually a shallow cut with the point of the knife is sufficient for the second part of the J cut.

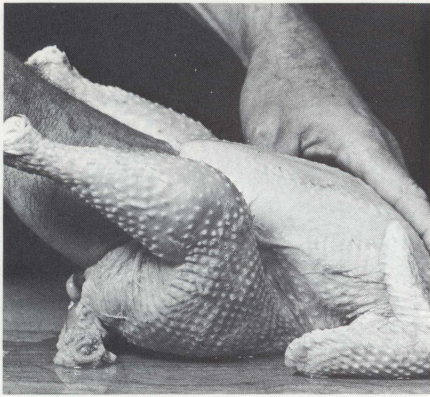
After the vertical cut, the body opening is completed by carefully cutting around the vent to remove the intact intestine. Pull the intestine to one side to avoid cutting it with the knife point.



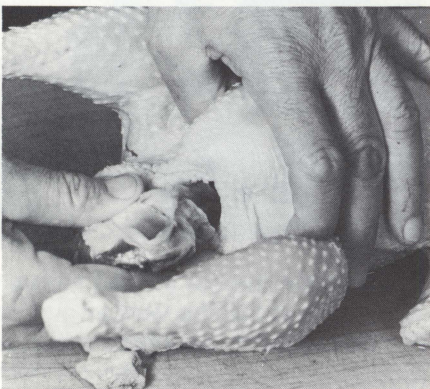
The third part of the J opening is a vertical cut to the left of and above the vent, to separate the vent from the abdominal wall. The vent will be removed with the intestine in the next step. Be careful not to cut the intestine.



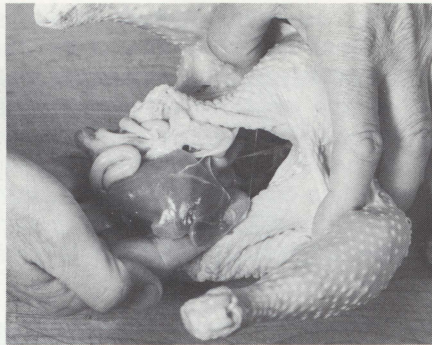
Complete the cut around the vent opening and pull the vent away from the carcass with the intestine partially removed. The body cavity is completely open.



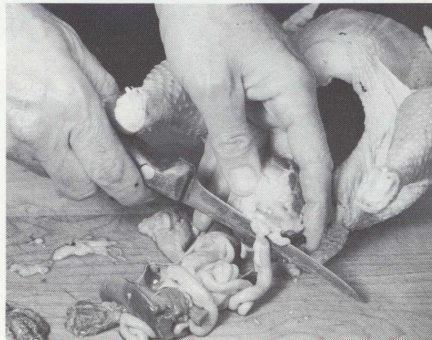
In the next phase, your hand enters the body cavity to remove the viscera. This is easier for people with small hands but can be done by anyone. It may be necessary to enlarge the opening cut into the body cavity to fit a large hand. Do not cut the skin of the breast if processing a show bird. Insert your hand as far forward as possible. Try to break the attachment of the organs from the body wall before pulling them out. Also try to get your hand in front of the heart so that when you remove the viscera, you bring essentially all organs out at one pull. Often it is possible to remove the lungs, but usually they must be removed separately. For people with large hands, it is sometimes easier to pull the gizzard out first before attempting to remove the rest of the viscera.



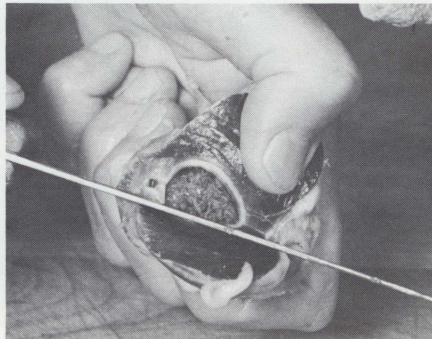
The viscera are removed from the body cavity with a slight twisting motion of the hand while pulling them. The gizzard is visible.



The basic evisceration operation is completed at this time. The visible organ is the liver.

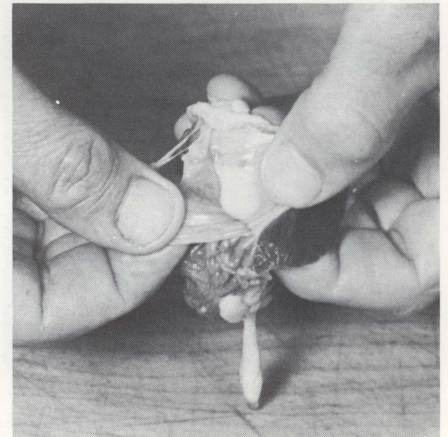


Immediately after removing the viscera from the body cavity, begin giblet harvesting. The initial step is to cut the intestine leading to the gizzard, then remove the gizzard for opening and cleaning.



Cut the gizzard open for the removal of the feed contents. The contents consist primarily of feed and small stones which are used in the grinding of the feed during digestion. Open the gizzard under or near run-

ning water. This facilitates removal of the contents of the gizzard. If the gizzard is full, most of the contents can be placed with the waste before washing out the adhering parts.



The lining of the gizzard may be removed easily if you first chill the gizzard in ice water. This lining is the yellow, rough textured, tough inner membrane which protects the gizzard muscles during digestion.



To harvest the liver first remove the green gall bladder. Be careful not to rupture the gall bladder. Gall contaminating the liver imparts a bitter taste. After the giblets have been harvested, wash them and place them in chilled water. If several birds are processed at once, use a separate chill container for giblets.

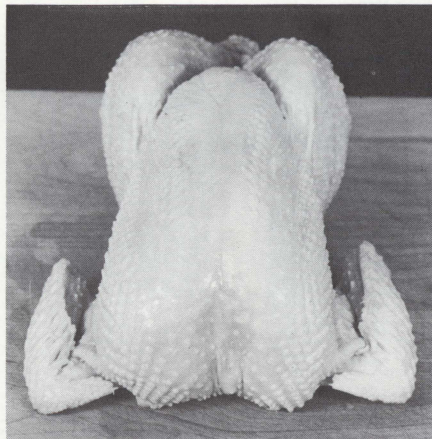


The lungs usually are difficult to remove. They are imbedded in the ribs in the body cavity. While pressing down on the rib cage, work your fingers between the ribs against the back bone near the neck area. Gently roll your fingers back until the lungs have been removed from the rib cage. Immediately after lung removal, check the body cavity to be sure all parts have been removed. Wash the inside of the carcass thoroughly under running water. Wash the outside of the carcass to remove all particulate matter, blood and tissue which has adhered to the surface of the carcass during evisceration.

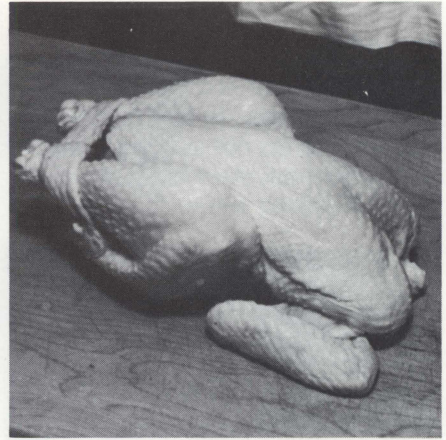
Chilling and Packing



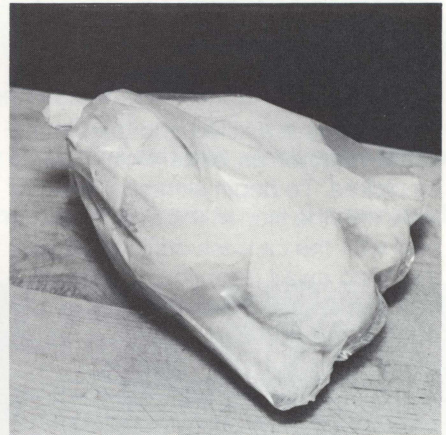
The carcass can be chilled in an ice water slush in an insulated chest, bucket or other clean container. Mix water and ice together until the temperature is 32°F to 34°F. The carcass should be chilled to below 40°F within 2 to 6 hours after processing. This will maintain high quality and minimize bacterial growth. Water chilling also rinses bacteria from the carcass.



After chilling, the finished broiler may be trussed or the legs may be tied with a string or strong white thread and the wings tucked back underneath the body of the carcass. This makes an attractive final product.



The carcass can be trussed using the bar cut to hold the legs.



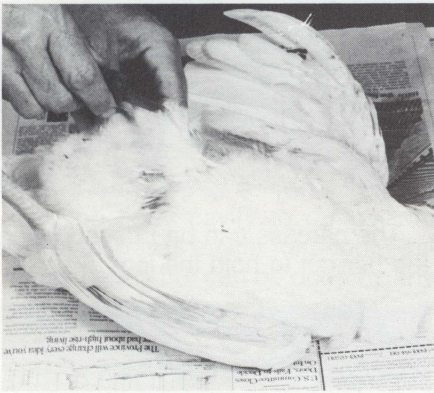
The final step is packaging the finished product.



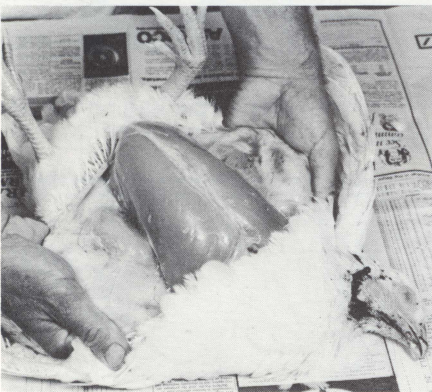
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Skinning

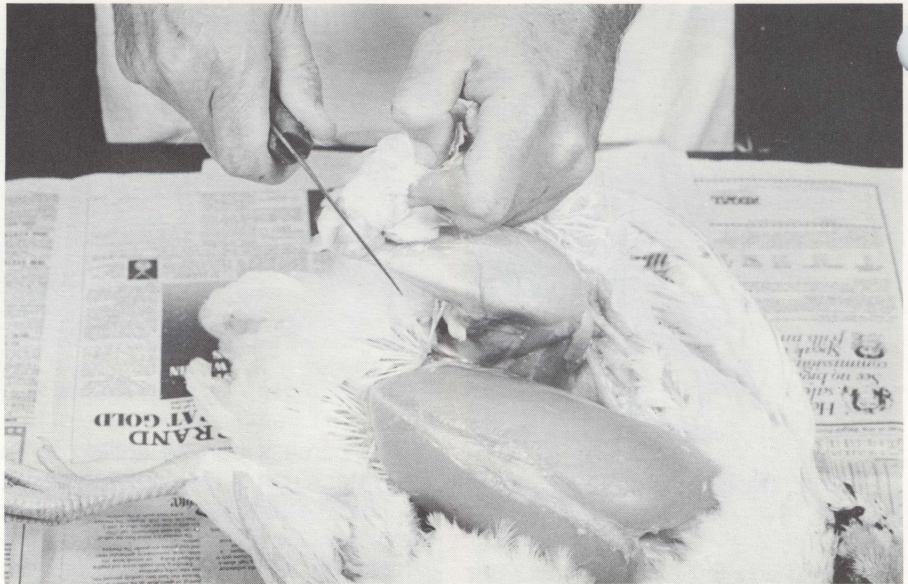
An alternate method of processing may be used for home consumption, but not for show. In this method, for people who do not use the skin, the bird is skinned, eliminating the scalding and picking steps.



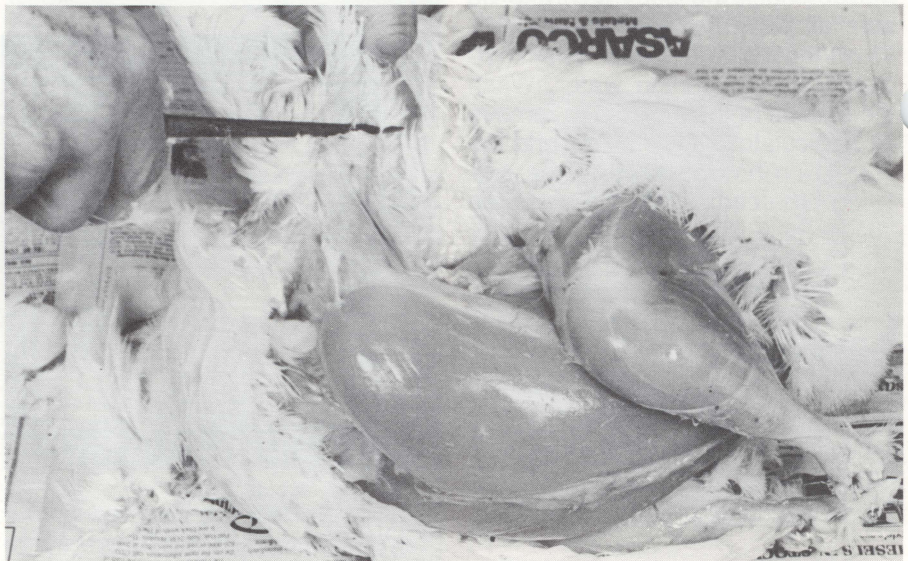
The birds are killed and bled in the same manner as birds which are to be picked. To begin skinning, insert a knife into the skin at the bottom of the keel with the carcass on its back with the head away from you. Lift the skin and cut it only. Cut forward to the front of the carcass.



Pull the skin and feathers back with your hands and expose the breast muscles.



Work the skin loose from the thigh and drumstick area with your hands. After the skin has been pushed back to expose the hock joint, cut through this joint with a knife. The skin, or pelt, will be removed from this area along with each foot.



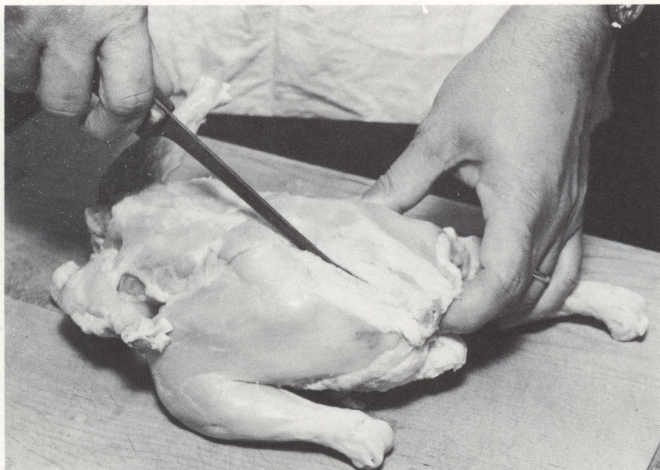
Loosen the skin to the joint between the first and second section of the wing (the elbow). Remove the last two sections of the wing with skin from this area.



Loosen the skin at the base of the neck. Cut the meat around the base of the neck near the shoulders. Twist the neck off the carcass with your hand.

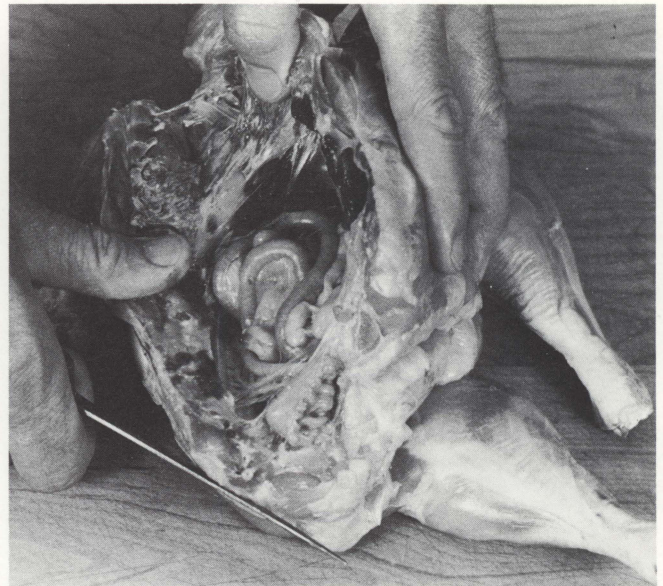
The final cut is the removal of the tail and *the attached pelt*. The remaining carcass is skinless, neckless, tailless and only has the upper section of the wing.

Before cutting off any parts, foot, wing section, neck or tail, be sure the skin has been worked clear and is removed from the area with the part.



To eviscerate this carcass for home consumption, make a cut along one side of the backbone. Hold the carcass breast down on the board with the front toward you. Hold the carcass by one wing and one leg. Place the knife in the notch at the side of the tail and cut forward along one side of the back bone. Cut the carcass only. Do not allow the knife to accidentally cut the intestine. The whole backbone can be removed if desired by also cutting on the other side.

After this cut, the body cavity is completely opened and you can scoop out or lift out the viscera. When the carcass is opened this way, removal of the lungs and all



of the internal organs is easier. Giblet harvest is completed in the same manner as with the conventional processing method. This method is quicker and probably is less work than the conventional method. However, processing by this method results in loss of the skin and other parts of the bird.

The carcass, after chilling, may be packed whole, split for barbeque or cut in parts and packaged for freezing.

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